

WHAT IS CLAIMED IS:

1. A fuel manifold for the direct injection of fuel into an internal combustion engine comprising a head provided with a number of cylinders, a number of injectors, each of which is connected to the fuel manifold and is adapted directly to inject the fuel into a respective cylinder, and an intake manifold which is connected to the head in order to supply fresh air to the cylinders, the fuel manifold being characterised in that it is formed by a single monolithic body which is made from thixotropic aluminum by means of a pressure die casting process and comprises a supply duct adapted to distribute the fuel under pressure to the injectors, and a flange disposed laterally to the supply duct, the flange having a plurality of through holes in order to be secured by respective screws to the head of the engine and comprising a number of coupling members, each of which is adapted to bring a respective cylinder into communication with the intake manifold.
2. A fuel manifold as claimed in claim 1, in which the flange comprises a substantially plane plate which extends laterally to the supply duct from a median portion of this supply duct, each coupling member comprising a tubular body which rises from the plate perpendicularly with respect to the plane in which this plate lies.
3. A fuel manifold as claimed in claim 2, in which a lower surface of the plate is plane and has a relatively very small surface roughness so that it can be coupled in a leak-tight manner with a corresponding upper surface of the head.
4. A fuel manifold as claimed in claim 2, in which a series of reinforcing ribs are provided and are disposed perpendicularly with respect to the plane in which the plate lies and involve both the plate and the supply duct.
5. A fuel manifold as claimed in claim 4, in which the flange has a series of raised zones, via each of which a respective through hole is provided for the passage of a screw for connection to the head of the engine.
6. A fuel manifold as claimed in claim 5, in which some reinforcing ribs start from the raised zones.
7. A fuel manifold as claimed in claim 4, in which some reinforcing ribs start from the tubular bodies.
8. A fuel manifold as claimed in claim 1, in which the supply duct is formed by a main cylindrical tubular channel from which a series of further secondary cylindrical tubular channels, disposed perpendicularly with respect to the main cylindrical tubular duct, lead,

each secondary cylindrical tubular channel being adapted to house a respective injector in a leak-tight manner.

9. A fuel manifold as claimed in claim 8, in which the main cylindrical tubular channel has two opposite open ends, one of which is used to supply the fuel under pressure and the other is closed by a relative screw cap.

10. A fuel manifold as claimed in claim 9, in which, in the vicinity of the end closed by the screw cap, the main cylindrical tubular channel has a first opening adapted to receive a pressure regulator and a second opening adapted to receive a pressure sensor.